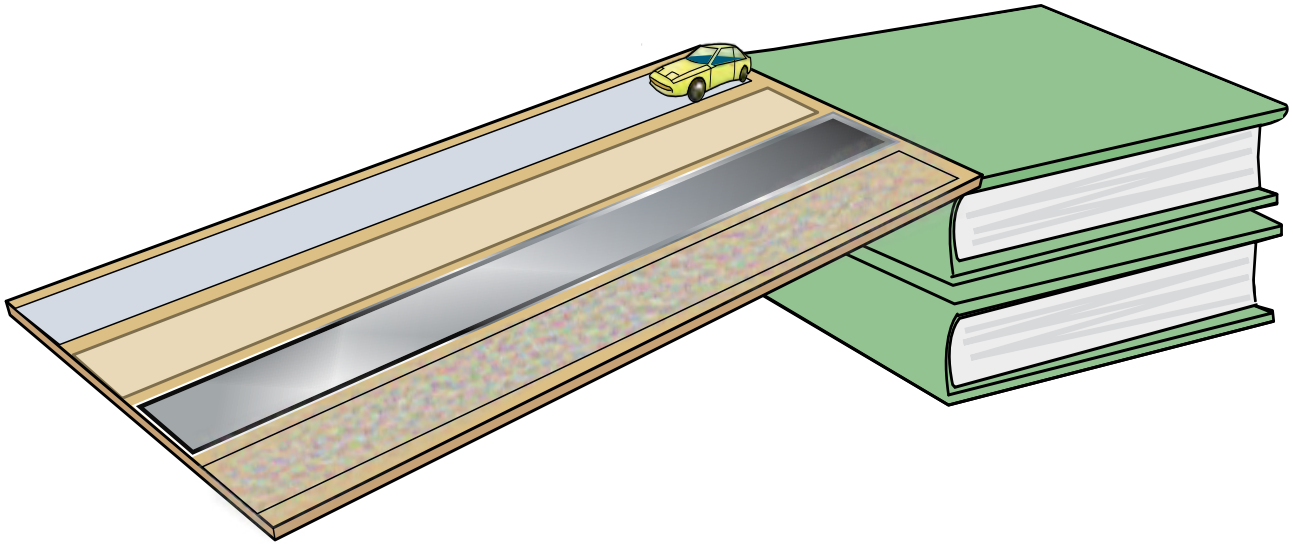
Racing Against Friction



Procedure

1. Use the scissors to trim the different strips of material to the same length.
2. Place the strips of material on the piece of cardboard. One end of each strip should be lined up against the edge of one side of the cardboard. (See the above diagram.) Tape the strips in place using the masking tape.
3. Stack the textbooks on top of one another. Place one end of the cardboard on top of the books to form a ramp. The ends of the strips of material should be toward the table. Tape the cardboard in place.
4. Predict which material will allow the car to move down the ramp the quickest. Write your prediction on the Data Sheet, and explain your prediction.
5. Place the toy car at the top edge of the first strip of material. Let the car roll down the ramp to the table. Use the stopwatch to time the amount of time it takes the car to travel from the top of the material strip to the table. Record the time on the Data Sheet.
6. Repeat this process with the first strip of material until you have completed three trials. Record all data.
7. Repeat steps 5 and 6 with the other three strips of material. Record all results.
8. Answer the questions on the following Data Sheet.

Racing Against Friction Data Sheet

Name _____

Fastest material prediction _____

Explain your choice _____

_____

_____

_____

_____

Data Table

	Trial One Time (s)	Trial Two Time (s)	Trial Three Time (s)	Average Time (s)
Construction paper				
Felt fabric				
Sand paper				
Wax paper				

Questions

1. Which material was the fastest track for the toy car? Was your prediction correct?
2. Why did the toy car travel at different rates on the different materials?
3. Why is it important for the strips of materials to be the same length?